

FACT SHEET FOR NPDES PERMIT WA0000361
JESSIE'S ILWACO FISH COMPANY

TABLE OF CONTENTS

INTRODUCTION	1
BACKGROUND INFORMATION	2
DESCRIPTION OF THE FACILITY	2
History	2
Industrial Process	2
Discharge Outfall	3
PERMIT STATUS	3
SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT	3
WASTEWATER CHARACTERIZATION	3
PROPOSED PERMIT LIMITATIONS	4
TECHNOLOGY-BASED EFFLUENT LIMITATIONS	4
SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS	5
Numerical Criteria for the Protection of Aquatic Life	5
Numerical Criteria for the Protection of Human Health	5
Narrative Criteria	6
Antidegradation	6
Critical Conditions	6
Mixing Zones	6
Description of the Receiving Water	6
Surface Water Quality Criteria	7
Whole Effluent Toxicity	7
Human Health	8
Sediment Quality	8
GROUND WATER QUALITY LIMITATIONS	8
COMPARISON OF EFFLUENT LIMITS WITH THE EXISTING PERMIT ISSUED JUNE 29, 2001	8
MONITORING REQUIREMENTS	8
LAB ACCREDITATION	8
OTHER PERMIT CONDITIONS	9
REPORTING AND RECORDKEEPING	9
NON-ROUTINE AND UNANTICIPATED DISCHARGES	9
SPILL PLAN	9
GENERAL CONDITIONS	9
PERMIT ISSUANCE PROCEDURES	9
PERMIT MODIFICATIONS	9
RECOMMENDATION FOR PERMIT ISSUANCE	9
REFERENCES FOR TEXT AND APPENDICES	10
APPENDIX A--PUBLIC INVOLVEMENT INFORMATION	11
APPENDIX B--GLOSSARY	12
APPENDIX C--RESPONSE TO COMMENTS	15

INTRODUCTION

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System (NPDES) of permits, which is administered by the Environmental Protection Agency (EPA). The EPA has authorized the state of Washington to administer the NPDES permit program. Chapter 90.48 Revised Code of Washington (RCW) defines the Department of Ecology's (Department) authority and obligations in administering the wastewater discharge permit program.

The regulations adopted by the State include procedures for issuing permits [Chapter 173-220 Washington Administrative Code (WAC)], water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that a permit be issued before discharge of wastewater to waters of the state is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the permit. One of the requirements (WAC 173-220-060) for issuing a permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least 30 days before the permit is issued (WAC 173-220-050). The fact sheet and draft permit are available for review (see Appendix A--Public Involvement of the fact sheet for more detail on the Public Notice procedures).

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in this review have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Comments and the resultant changes to the permit will be summarized in Appendix C--Response to Comments.

GENERAL INFORMATION	
Applicant	Jessie's Ilwaco Fish Co., Inc.
Facility Name and Address	117 Howerton Way P.O. Box 800, Ilwaco, WA 98624
Type of Facility:	Seafood Processor
SIC Code	2092
Discharge Location	Columbia River/Baker Bay Latitude: 46° 18' 24" N Longitude: 124° 01' 58" W.
Water Body ID Number	WA-CR-1010/1220169456238

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

HISTORY

Fish processing has occurred on the dock at the Port of Ilwaco's commercial basin, since the early 1920's. The Ilwaco Fish Company became known as Jessie's Ilwaco Fish Co., Inc. (Jessie's) in 1961. They were first permitted in 1967 under the Washington State Pollution Control Commission. The Department has issued NPDES permits in 1974, 1979, 1991, 1996 and 2001.

INDUSTRIAL PROCESS

The facility originally processed salmon and crab, but expanded in the 60's and early 70's to include bottom fish and shrimp. Currently, Jessie's primarily processes crab, shrimp, salmon, tuna, bottomfish and Pacific Whiting. These processing activities fall under SIC Code 2092- *Fresh or Frozen Packaged Fish and Seafood*. During the summer of 2000, a sardine season was reopened in Washington and Oregon coastal waters, and Jessie's began washing, packaging, and freezing these fish. In addition, tuna is received frozen, loaded into trucks, and shipped without processing.

In their permit application, Jessie's listed the following production levels (production in pounds):

Year	Bottomfish	Whiting	Shrimp	Crab	Salmon/ Scrap*	Sardines
2001	663,000	2,900,000	906,000	553,000	10,442,000	2,157,000
2002	292,000	600,000	1,016,000	1,017,000	12,677,000	7,778,000
2003	206,000	4,646,000	902,000	3,969,000	5,959,000	1,913,000
2004	155,000	9,678,000	1,279,000	2,141,000	3,447,000	2,125,000

*- from grinding & freezing salmon & bottomfish carcasses & scraps. (Includes solid waste from other fish processors.)

Types and quantities of seafood processed is quite variable and often unpredictable. Variables include the season, catch, weather, ocean conditions, and market demands.

Chemicals stored and used onsite include: tripolyphosphate (a processing aid for shrimp)- maximum of 10,000 pounds per month; chlorine-based cleaners- 250 gallons per month; and other cleaning products, up to 10 gallons per month of various soap solutions.

Production water is supplied to Jessie's from the City of Ilwaco. Wastewater drains to one of two sumps. Sump #1 receives wastewater from shrimp processing only, while sump #2 receives wastewater from all other processes. The drainage from the new building at this site will discharge through floor drains into the sumps #2. Wastewater from each sump is pumped through separate tangential screens before commingling in a 3,000 gallon sump, known as the main sump. This wastewater is then pumped to the outfall into Baker Bay.

Shrimp and crab waste are collected and shipped offsite for use in by-products. All other seafood scrap material is ground, frozen, and shipped offsite for use as pet food additives.

*FACT SHEET FOR NPDES PERMIT WA0000361
JESSIE'S ILWACO FISH COMPANY*

Domestic wastewater from Jessie's is disposed via sanitary sewer to the City of Ilwaco Wastewater Treatment Plant.

Jessie's has implemented many best management practices to conserve water and reduce pollutants. These BMP's and further descriptions of Jessie's processes can be found in Jones & Stokes 1995.

DISCHARGE OUTFALL

Jessie's shares an outfall discharge pipe with the City of Ilwaco's municipal wastewater treatment plant. Both effluents are joined in a manhole near the east end of the marina. The combined effluents then discharge into Baker Bay approximately 6 feet from the reinforced shoreline at roughly the high tide level, about 700 feet south and 200 feet from the city's wastewater treatment plant, to the east off of Outer Harbor Way. At lower tides, these effluents flow across the tidal mudflats for up to several hundred yards before meeting the bay water.

PERMIT STATUS

The previous permit for this facility was issued on June 29, 2001. The previous permit placed effluent limitations on flow, fecal coliforms, pH, temperature, total suspended solids, and oil and grease.

An application for permit renewal was submitted to the Department on January 14, 2005, and accepted by the Department on April 14, 2005.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility last received an inspection on September 6, 2000.

During the history of the previous permit, the Permittee did not remain in compliance based on Discharge Monitoring Reports (DMRs) submitted to the Department and inspections conducted by the Department. The violations were failures to submit total residual chlorine sampling results.

WASTEWATER CHARACTERIZATION

The proposed wastewater discharge is characterized for the following regulated parameters:

Table 1: Wastewater Characterization

Parameter	Concentration
BOD ₅	619 mg/L
COD	1400 mg/L
TOC	550 mg/L
Ammonia	8.5 mg/L
Flow	41, 256 gpd
Temperature, Summer	14.7 °C
Temperature, Winter	13.8 °C
pH	6.1 to 8.5 S.U.

Parameter	Concentration
Total Residual Chlorine	0.31 mg/L
Fecal Coliform	538 colonies /100ml

PROPOSED PERMIT LIMITATIONS

Federal and State regulations require that effluent limitations set forth in a NPDES permit must be either technology- or water quality-based. Technology-based limitations are based upon the treatment methods available to treat specific pollutants. Technology-based limitations are set by regulation or developed on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC). Water quality-based limitations are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Quality Standards (Chapter 173-204 WAC) or the National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). The more stringent of these two limits must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below.

The limits in this permit are based in part on information received in the application. The effluent constituents in the application were evaluated on a technology- and water quality-basis. The limits necessary to meet the rules and regulations of the state of Washington were determined and included in this permit. The Department does not develop effluent limits for all pollutants that may be reported on the application as present in the effluent. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, are not listed in regulation, and do not have a reasonable potential to cause a water quality violation. Effluent limits are not always developed for pollutants that may be in the discharge but not reported as present in the application. In those circumstances the permit does not authorize discharge of the non-reported pollutants. Effluent discharge conditions may change from the conditions reported in the permit application. If significant changes occur in any constituent, as described in 40 CFR 122.42(a), the Permittee is required to notify the Department. The Permittee may be in violation of the permit until the permit is modified to reflect additional discharge of pollutants.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

Jessie's Ilwaco Fish Company is an existing source. As a processor of shrimp, crab, bottomfish, whiting, salmon, tuna, and sardines on the Pacific Coast, it is subject to the following federal effluent guidelines:

- ◆ Shrimp - - - 40 CFR Part 408 Section 112- *Northern Shrimp Processing in the Contiguous States*
- ◆ Crab - - - -40 CFR Part 408 Section 82- *Dungeness & Tanner Crab Processing in the Contiguous States*
- ◆ Bottomfish -40 CFR Part 408 Section 212- *Non-Alaskan Conventional Bottom Fish Processing*
- ◆ Bottomfish -40 CFR Part 408 Section 222- *Non-Alaskan Mechanized Bottom Fish Processing*
- ◆ Salmon - - -40 CFR Part 408 Section 182- *West Coast Hand-Butchered Salmon Processing*
- ◆ Tuna - - - - 40 CFR Part 408 Section 142- *Tuna Processing*

The processing of whiting falls into the category of mechanized bottom fish, as specified in the applicability description for this category (Part 408 Section 220) and described in EPA's development guidance document (EPA 1975, pp. 100-125).

The federal effluent categorical standards for sardines will not be used because they are not applicable. These guidelines cover process from canning sardines, but Jessie's does not can these fish. Last year, all sardine processing consisted of washing, packing, freezing, and shipping the sardines. For this activity, a more appropriate guideline was found in EPA's development guidance document – EPA 1975, page 131. Table 31, titled *Sardine In-Plant Fish Transport Water, Storage Area to Packing Area*, lists characteristics of this wastewater. These characteristics should be similar to this washwater at Jessie's. Therefore, these figures for TSS and oil and grease will be added to Jessie's effluent limits for sardine washing.

If Jessie's butchers sardines in the future, the categorical limits for conventional bottom fish processing should be used if hand butchered, or mechanized bottom fish processing limits if processed by hand.

The allowance for tuna is speculative. This past season, Jessie's received frozen tuna and moved them to freezer trucks for transport in the frozen form. No "processing" occurred, and no wastewater was generated. This allowance will only apply if and when Jessie's actually processes tuna, and only to the amount that is processed. Frozen tuna moved across the dock to waiting trucks does not constitute "processing" and will not trigger the discharge pollutant allowance.

Monitoring for fecal coliforms for the period July 1, 2001, through March 1, 2005, shows that the count was at the maximum that the test allows on 13 occasions. This is typical of seafood processors in the Pacific County-Grays Harbor County area. As a result, a limit for fecal coliforms will be added to this permit using the limit established for municipal treatment plants.

SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's Surface Waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will meet established Surface Water Quality Standards. The Washington State Surface Water Quality Standards (Chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the surface waters of the state. Surface water quality-based effluent limitations may be based on an individual waste load allocation (WLA) or on a WLA developed during a basin wide total maximum daily loading study (TMDL).

NUMERICAL CRITERIA FOR THE PROTECTION OF AQUATIC LIFE

"Numerical" water quality criteria are numerical values set forth in the state of Washington's Water Quality Standards for Surface Waters (Chapter 173-201A WAC). They specify the levels of pollutants allowed in a receiving water while remaining protective of aquatic life. Numerical criteria set forth in the Water Quality Standards are used along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limitations, they must be used in a permit.

NUMERICAL CRITERIA FOR THE PROTECTION OF HUMAN HEALTH

The U.S. EPA has promulgated 91 numeric water quality criteria for the protection of human health that are applicable to Washington State (EPA 1992). These criteria are designed to protect humans from cancer and other disease and are primarily applicable to fish and shellfish consumption and drinking water from surface waters.

NARRATIVE CRITERIA

In addition to numerical criteria, "narrative" water quality criteria (WAC 173-201A-030) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health. Narrative criteria protect the specific beneficial uses of all fresh (WAC 173-201A-130) and marine (WAC 173-201A-140) waters in the state of Washington.

ANTIDegradation

The state of Washington's Antidegradation Policy requires that discharges into a receiving water shall not further degrade the existing water quality of the water body. In cases where the natural conditions of a receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of a receiving water are of higher quality than the criteria assigned, the natural conditions shall be protected. More information on the State Antidegradation Policy can be obtained by referring to WAC 173-201A-070.

The Department has reviewed existing records and is unable to determine if ambient water quality is either higher or lower than the designated classification criteria given in Chapter 173-201A WAC; therefore, the Department will use the designated classification criteria for this water body in the proposed permit. The discharges authorized by this proposed permit should not cause a loss of beneficial uses.

CRITICAL CONDITIONS

Surface water quality-based limits are derived for the waterbody's critical condition, which represents the receiving water and waste discharge condition with the highest potential for adverse impact on the aquatic biota, human health, and existing or characteristic water body uses.

MIXING ZONES

The Water Quality Standards allow the Department to authorize mixing zones around a point of discharge in establishing surface water quality-based effluent limits. Both "acute" and "chronic" mixing zones may be authorized for pollutants that can have a toxic effect on the aquatic environment near the point of discharge. The concentration of pollutants at the boundary of these mixing zones may not exceed the numerical criteria for that type of zone. Mixing zones can only be authorized for discharges that are receiving all known, available, and reasonable methods of prevention, control and treatment (AKART) and in accordance with other mixing zone requirements of WAC 173-201A-100.

The National Toxics Rule (EPA, 1992) allows the chronic mixing zone to be used to meet human health criteria.

DESCRIPTION OF THE RECEIVING WATER

The facility discharges to Baker Bay on the Columbia River which is designated as a Class A receiving water in the vicinity of the outfall. Other nearby point source outfalls includes the City of Ilwaco Wastewater Treatment Plant. Significant nearby non-point sources of pollutants include the Ilwaco Marina. Characteristic uses include the following:

water supply (domestic, industrial, agricultural); stock watering; fish migration; fish and shellfish rearing, spawning and harvesting; wildlife habitat; primary contact recreation; sport fishing;

boating and aesthetic enjoyment; commerce and navigation. Water quality of this class shall meet or exceed the requirements for all or substantially all uses.

SURFACE WATER QUALITY CRITERIA

Applicable criteria are defined in Chapter 173-201A WAC for aquatic biota. In addition, U.S. EPA has promulgated human health criteria for toxic pollutants (EPA 1992). Criteria for this discharge are summarized below:

Fecal Coliforms	100 organisms/100 mL maximum geometric mean
Dissolved Oxygen	8 mg/L minimum
Temperature	18 degrees Celsius maximum or incremental increases above background
pH	6.5 to 8.5 standard units
Turbidity	less than 5 NTU above background
Toxics	No toxics in toxic amounts

Limits for chlorine residual is derived in the following way. Since the discharge pipe is not always submerged and has no diffuser, water quality criteria must be met at the end of the discharge pipe. For chlorine, an allowance is made for mixing with the effluent from the Ilwaco municipal treatment plant. Assuming a maximum flow of 750,000 gallons per day from Jessie's, and an average flow of 350,000 gallons per day from the treatment plant, the revised water quality-based limits are calculated as follows: $0.75X = (0.75 + 0.35)11$ and $0.75X = (0.75 + 0.35)19$. $X = 16$ and $28 \mu\text{g/L}$ chlorine residual, for monthly average and daily maximum, respectively.

Pollutants in an effluent may affect the aquatic environment near the point of discharge (near field) or at a considerable distance from the point of discharge (far field). Toxic pollutants, for example, are near-field pollutants--their adverse effects diminish rapidly with mixing in the receiving water. Conversely, a pollutant such as BOD is a far-field pollutant whose adverse effect occurs away from the discharge even after dilution has occurred. Thus, the method of calculating surface water quality-based effluent limits varies with the point at which the pollutant has its maximum effect.

The derivation of surface water quality-based limits also takes into account the variability of the pollutant concentrations in both the effluent and the receiving water.

pH--Because of the high buffering capacity of marine water, compliance with the technology-based limits of 6.0 to 9.0 will assure compliance with the Water Quality Standards for Surface Waters.

WHOLE EFFLUENT TOXICITY

The Water Quality Standards for Surface Waters require that the effluent not cause toxic effects in the receiving waters. Many toxic pollutants cannot be detected by commonly available detection methods. However, toxicity can be measured directly by exposing living organisms to the wastewater in laboratory tests and measuring the response of the organisms. Toxicity tests measure the aggregate toxicity of the whole effluent, and therefore this approach is called whole effluent toxicity (WET) testing.

Toxicity caused by unidentified pollutants is not expected in the effluent from this discharge as determined by the screening criteria given in Chapter 173-205 WAC. Therefore, no whole effluent

toxicity testing is required in this permit. The Department may require effluent toxicity testing in the future if it receives information that toxicity may be present in this effluent.

HUMAN HEALTH

Washington's water quality standards now include 91 numeric health-based criteria that must be considered in NPDES permits. These criteria were promulgated for the state by the U.S. EPA in its National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992).

The Department has determined that the applicant's discharge is unlikely to contain chemicals regulated for human health,

SEDIMENT QUALITY

The Department has promulgated aquatic sediment standards (Chapter 173-204 WAC) to protect aquatic biota and human health. These standards state that the Department may require Permittee's to evaluate the potential for the discharge to cause a violation of applicable standards (WAC 173-204-400).

The Department has determined through a review of the discharger characteristics and effluent characteristics that this discharge has no reasonable potential to violate the Sediment Management Standards.

GROUND WATER QUALITY LIMITATIONS

The Department has promulgated Ground Water Quality Standards (Chapter 173-200 WAC) to protect beneficial uses of ground water. Permits issued by the Department shall be conditioned in such a manner so as not to allow violations of those standards (WAC 173-200-100).

This Permittee has no discharge to ground and therefore no limitations are required based on potential effects to ground water.

COMPARISON OF EFFLUENT LIMITS WITH THE EXISTING PERMIT ISSUED JUNE 29, 2001

There is no change in the limits for the proposed permit with the exception of chlorine and fecal coliforms.

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved.

The monitoring schedule is detailed in the proposed permit under Condition S.2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

LAB ACCREDITATION

With the exception of certain parameters the permit requires all monitoring data to be prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, *Accreditation of Environmental Laboratories*.

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S3. are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-220-210).

NON-ROUTINE AND UNANTICIPATED DISCHARGES

Occasionally, this facility may generate wastewater which is not characterized in their permit application because it is not a routine discharge and was not anticipated at the time of application. These typically are waters used to pressure test storage tanks or fire water systems or leaks from drinking water systems. These are typically clean waste waters but may be contaminated with pollutants. The permit contains an authorization for non-routine and unanticipated discharges. The permit requires a characterization of these waste waters for pollutants and examination of the opportunities for reuse. Depending on the nature and extent of pollutants in this wastewater and opportunities for reuse, the Department may authorize a direct discharge via the process wastewater outfall or through a stormwater outfall for clean water, require the wastewater to be placed through the facilities wastewater treatment process or require the water to be reused.

SPILL PLAN

The Permittee has developed a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The proposed permit requires the Permittee to update this plan and submit it to the Department, before January 1, 2009.

GENERAL CONDITIONS

General Conditions are based directly on state and federal law and regulations and have been standardized for all individual industrial NPDES permits issued by the Department.

PERMIT ISSUANCE PROCEDURES

PERMIT MODIFICATIONS

The Department may modify this permit to impose numerical limitations, if necessary to meet Water Quality Standards for Surface Waters, Sediment Quality Standards, or Water Quality Standards for Ground Waters, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

The Department may also modify this permit as a result of new or amended state or federal regulations.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the state of Washington. The Department proposes that this proposed permit be issued for 5 years.

REFERENCES FOR TEXT AND APPENDICES

Environmental Protection Agency (EPA)

1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.
1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.
1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington, D.C.
1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.
1983. Water Quality Standards Handbook. USEPA Office of Water, Washington, D.C.

Tsivoglou, E.C., and J.R. Wallace.

1972. Characterization of Stream Reaeration Capacity. EPA-R3-72-012. (Cited in EPA 1985 op.cit.)

Washington State Department of Ecology.

1994. Permit Writer's Manual. Publication Number 92-109

Washington State Department of Ecology.

Laws and Regulations(<http://www.ecy.wa.gov/laws-rules/index.html>)

Permit and Wastewater Related Information
(<http://www.ecy.wa.gov/programs/wq/wastewater/index.html>)

Wright, R.M., and A.J. McDonnell.

1979. In-stream Deoxygenation Rate Prediction. Journal Environmental Engineering Division, ASCE. 105(EE2). (Cited in EPA 1985 op.cit.)

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public notice of application was published on June 22, 2005, and June 29, 2005, in the *Chinook Observer* to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

The Department will publish a Public Notice of Draft (PNOD) on May 31, 2006 in the *Chinook Observer* to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Industrial Unit Permit Coordinator
Department of Ecology
Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the 30 day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least 30 days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within 30 days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (360) 407-6280 or by writing to the address listed above.

This permit and fact sheet were written by Gary Anderson P.E. and Don Reif.

APPENDIX B--GLOSSARY

Acute Toxicity--The lethal effect of a compound on an organism that occurs in a short period of time, usually 48 to 96 hours.

AKART-- An acronym for "all known, available, and reasonable methods of treatment".

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Ammonia--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation --The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD₅--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD₅ is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass--The intentional diversion of waste streams from any portion of a treatment facility.

Chlorine--Chlorine is used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Chronic Toxicity--The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

Clean Water Act (CWA)--The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.)

Construction Activity--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring --Uninterrupted, unless otherwise noted in the permit.

Critical Condition--The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

Dilution Factor--A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the percent effluent fraction e.g., a dilution factor of 10 means the effluent comprises 10 percent by volume and the receiving water 90 percent.

Engineering Report--A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Fecal Coliform Bacteria--Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

Grab Sample--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Major Facility--A facility discharging to surface water with an EPA rating score of > 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

Minor Facility--A facility discharging to surface water with an EPA rating score of < 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Mixing Zone--An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in state regulations (Chapter 173-201A WAC).

National Pollutant Discharge Elimination System (NPDES)--The NPDES (Section 402 of the Clean Water Act) is the Federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the State of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both State and Federal laws.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7.0 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL)-- A calculated value five times the MDL (method detection level).

Responsible Corporate Officer-- A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Upset--An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

APPENDIX C--RESPONSE TO COMMENTS

The public comment period for this draft permit and fact sheet ended June 30, 2006. Two sets of comments were received: from Doug Ross on behalf of Jessie's Ilwaco Fish Company on June 15, 2006; and from Nancy E. Lockett, P.E. of Gray & Osborne, Inc., Consulting Engineers on behalf of the City of Ilwaco, on June 30, 2006. Both sets of comments are fairly brief and concise, so the comments will be included in their entirety.

Comments received June 30, 2006, from Nancy Lockett, Gray & Osborne, Inc on behalf of the city of Ilwaco.

This comment letter is written on behalf of the City of Ilwaco. Jessie's Ilwaco Fish Company shares an outfall with the City of Ilwaco Wastewater Treatment Facility. The City holds NPDES Permit No. WA0023159. The City's current permit, issued in 2006, classifies Baker Bay in the area of the outfall as marine water. All of the City's previous permits had identified Baker Bay as freshwater. The change in designation of Baker Bay from freshwater to marine water has decreased the City's fecal coliform permit limits.

Comment 1

The Fact Sheet for the Jessie's Ilwaco Fish Company NPDES permit classifies Baker Bay as freshwater based on the surface water quality criteria listed on page 7. The City requests that a consistent approach be taken to the water quality classification of Baker Bay.

Ecology's response 1

Ecology agrees that a consistent approach is desirable. Since information exists that indicates Baker Bay can be classified as marine water, Jessie's permit will be changed to acknowledge the receiving water as marine water, and the appropriate marine water quality criteria will be used.

To accomplish this change, an addendum to the fact sheet will be provided as follows: the Surface Water Quality Criteria list on page 7 is changed to the appropriate marine water quality limits. The Department will use the same dilution factors and fecal coliform limits as described in the Fact Sheet for NPDES Permit WA0023159, City of Ilwaco Wastewater Treatment Plant issued September 2005 on pages 10 & 11 and page 12, respectively. The dilution factors (acute of 1:1 and chronic of 9:1) show that a limit of 104 organisms per 100 mL will not cause an exceedance of the water quality limit for fecal coliform. The original proposed limits of 100 monthly average/200 daily maximum will therefore be retained.

Comments received June 15, 2006, from Doug Ross, Jessie's Ilwaco Fish Co.

Comment 2

Our parameters for chlorine residual call for less than 16 µg/L average and 28 µg/L maximum. Our testing will only read down to 200 µg/L. Isn't testing down to **200 parts per billion** more than adequate?

Ecology's response 2

The water quality limit for total chlorine residual is very small. To confirm compliance, the analysis must be able to measure the parameter to levels at least as low as the limit. For example, if the allowable limit is 28 parts per billion (ppb) and the effluent chlorine was measured down to only 200 ppb, compliance would be unknown.

Every Permittee needs to make sure that their analytical lab uses the appropriate method with sufficiently low quantitation capability. For example, Standard Methods states that method 4500-Cl E. *Low-Level Amperometric Titration Method* can measure chlorine residual down to 10 ppb. However, the Department recognizes that some wastewaters may not allow quantitation down to this level due to interferences in the wastewater. To allow for this situation, the Department will add optional standard language into the permit, which describes the procedure to use if this situation occurs. This language will be included in fact sheet addendum in a new section titled Effluent Limits Below Quantitation. This information will also be added to the permit in footnote (1) under special condition S1. If Jessie's lab cannot measure effluent chlorine residual down to the compliance limit, Jessie's will not be out of compliance.

Comment 3

Fecal coliforms. It generally agreed that the fecal found in our wastewater is coming from bird droppings. Birds (sea gulls, crows, pigeons) are an integral part of port life, where there's food, there's birds. While looking for food, the birds are roosting on roofs, posts, docks, or just flying overhead. We have tried many ways to deter the birds from our facility, but with very limited success. There are only two ways to completely eliminate the birds from our plant; put a dome over the facility, or kill them. These choices are neither practical nor legal.

There are a number of birds (lots) in this port at any given time. What difference to the water quality of Baker Bay does it make if the bird droppings into Baker Bay come directly from the birds flying, roosting on pilings, roosting on the port floats, or if the bird droppings come from the birds flying, roosting on our dock, then make their way into our processing wastewater which discharges into Baker Bay?

Ecology response 3

Ecology agrees with this description of the problem and acknowledges that birds are the likely source of effluent fecal coliform. The issue for point source dischargers is primarily concentration (the number of fecal coliform in 100 mL of water) rather than the total amount of fecal coliform in the bay. When birds are flying or widely scattered in Baker Bay, the fecal coliform load is spread around and 100 mL of water might not contain more than 14 fecal coliform organisms. However, point source discharges must show compliance with water quality concentration criteria.

Ecology hopes that Jessie's will be able to find ways to reduce fecal coliform concentrations in the effluent so that limits are not exceeded. Any legal means to accomplish this is encouraged. We have discussed some ideas in the past, such as the elimination of non-process wastewater sources from the effluent system, such as roof drains.

ADDENDUM TO THE FACT SHEET

I. GENERAL INFORMATION

Facility: Jessie's Ilwaco Fish Company
P.O. Box 800
Ilwaco, WA 98624

II. SURFACE WATER QUALITY CRITERIA

This section replaces the existing section in the fact sheet.

Fecal Coliforms	64 organisms/43 mL maximum geometric mean
Dissolved Oxygen	6 mg/L minimum
Temperature	20 degrees Celsius maximum or incremental increase above background
pH	7.0 to 8.5 standard units
Turbidity	Less than 5 NTU above background
Toxics	No toxics in toxic amounts

III. EFFLUENT LIMITS BELOW QUANTITATION

The water quality-based effluent limits for total chlorine residual in the wastewater might be below the capability of current analytical technology to quantify. The Quantitation Level is the level at which concentrations can be reliably reported with a specified level of error. For maximum daily effluent limits, if the measured effluent concentration is below the Quantitation Level, the Permittee reports NQ for non-quantifiable. For average monthly effluent limits, all effluent concentrations below the Quantitation Level but above the Method Detection Level are used as reported for calculating the average monthly value.